

# MONTANA Economy at a Glance

MARCH 2008

## EMPLOYMENT BY INDUSTRY

(Does not include self-employed or agricultural employment)

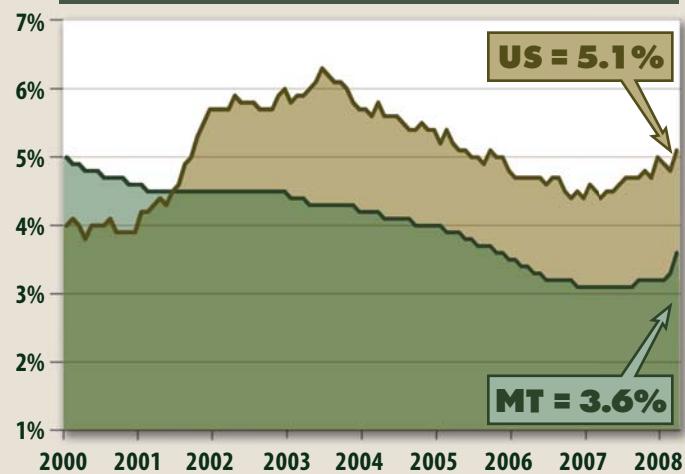
Industry Employment (in thousands)	Mar.(P) 2008	Feb. 2008	Net Change	Percent Change
Total Non-Agricultural	451.1	450.0	1.1	0.2%
Natural Resources & Mining	8.8	8.5	0.3	3.5%
Construction	33.3	32.8	0.5	1.5%
Manufacturing	20.4	20.3	0.1	0.5%
Trade, Transportation, & Utilities	93.4	93.8	-0.4	-0.4%
Information	7.8	7.7	0.1	1.3%
Financial Activities	21.9	21.8	0.1	0.5%
Professional & Business Services	42.1	41.9	0.2	0.5%
Education & Health Services	60.3	60.0	0.3	0.5%
Leisure & Hospitality	59.3	59.5	-0.2	-0.3%
Other Services	17.3	17.3	0.0	0.0%
Total Government	86.5	86.4	0.1	0.1%

(P) denotes preliminary figures

Montana's seasonally-adjusted non-agricultural payroll employment increased by 1,100 jobs (0.2%) from February to March 2008. Construction showed the largest gain with 500 (+1.5%) added jobs. Natural Resources & Energy and Education & Health Services each gained 300 jobs over the month.

## UNEMPLOYMENT RATE

Seasonally Adjusted



Montana's seasonally-adjusted unemployment rate increased to 3.6% in March 2008 from 3.3% in February. The U.S. rate also rose to 5.1% from 4.8% over the month.

## NON-FARM EMPLOYMENT

In Thousands



The Research and Analysis Bureau *of the Montana Department of Labor and Industry*  
**“Montana’s Workforce Information Center”**

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# The Good News about Gas Prices: An Overview of Montana's Energy Industry

by Barbara Wagner, Economist

## When panic and desperation take hold as you fill your car with gas

or figure out how to pay your utility bill each month, it is hard to believe that the recent increase in energy prices actually benefits Montana's economy. It is even harder to believe that growth in Montana's energy sector will eventually translate into economic benefits for you. However, as Montana's largest exporting industry, the energy industry brings new money into our economy, which translates into growth for other industries through spending and spillovers.

Economic base theory, a popular theory of regional development, focuses on exporting industries as the primary driver of economic growth in a region. While many industries, such as retail, represent a transfer of money from one entity to another within the region, exporting industries bring new money into the region and add to the region's wealth. Although employment in base industries may be smaller than in other industries, the base industries are important because the new wealth from exports allows for a greater amount of activity and jobs in other non-base industries, like retail. For example, for every job in the energy sector, 2.3 jobs are created in other sectors.<sup>i</sup>

## The Importance of Montana's Energy Sector:

Montana's current energy sector consists primarily of nonrenewable forms of energy production. Montana typically accounts for four percent of total annual U.S. coal production and two percent of annual U.S. crude oil production.<sup>ii</sup> Coal, natural gas, and oil are exported out of state, thus providing an important base industry for the state. In 2007, exports of coal, oil, and natural gas out of Montana totaled over \$54.8 million. In comparison, exports of wood products were approximately

\$36.5 million.<sup>iii</sup> Coal is also used in the value-added production of 1,632 gigawatts of coal-fired electricity, most of which is exported out of the state to profitable West Coast markets.<sup>iv</sup>

Montana also produces a small, but growing amount of electricity from renewable energy sources. Montana accounts for 4.4% of the total U.S. hydroelectric power, producing 814 gigawatts in 2007. Although production is currently small at 146 megawatts in 2006, Montana has great potential for becoming a significant producer of wind energy.<sup>v</sup> Montana is ranked the fifth best state for wind potential, and there are currently 45 wind projects in various stages of discussion and planning, with five wind farms in construction and production.<sup>vi</sup>

In terms of employment, the energy industry remains small in comparison to other industries, employing 2% of the total workers in Montana. The production of oil, coal, gas, and subsequent power generation employed approximately 8,500 workers and provided close to \$565 million in wages in 2006. Energy jobs pay higher wages than other jobs, with an average annual salary of \$66,700 compared to the Montana average of \$30,600 in 2006.<sup>vii</sup> Continued high prices for energy products in the future ensure continued employment growth in the energy industry.

Regionally, the majority of the state's coal, oil, and gas production occur in Eastern and Central Montana, where long-term population and economic declines have harmed communities. Energy provides an important growing industry in the region. However, the benefits of coal, oil, and gas production in Montana are enjoyed by those in Western Montana as well. Taxes from coal, oil, and gas production are a significant source of revenues for state and local governments, particularly



local school districts. In FY2006, the state received \$140.6 million in coal, oil, and gas tax revenues for the state general fund, while local governments and school districts received \$109.1 million.<sup>viii</sup>

The map below shows the location of various energy plants and transmission lines in Montana. Coal mining takes place within Richland, Rosebud, Musselshell, and Big Horn Counties. Oil and natural gas production occur in small amounts in almost all eastern and central counties, but is concentrated in Richland and Fallon counties. Wind farms are located in Baker, Judith Gap, Martinsdale, and outside of Great Falls.

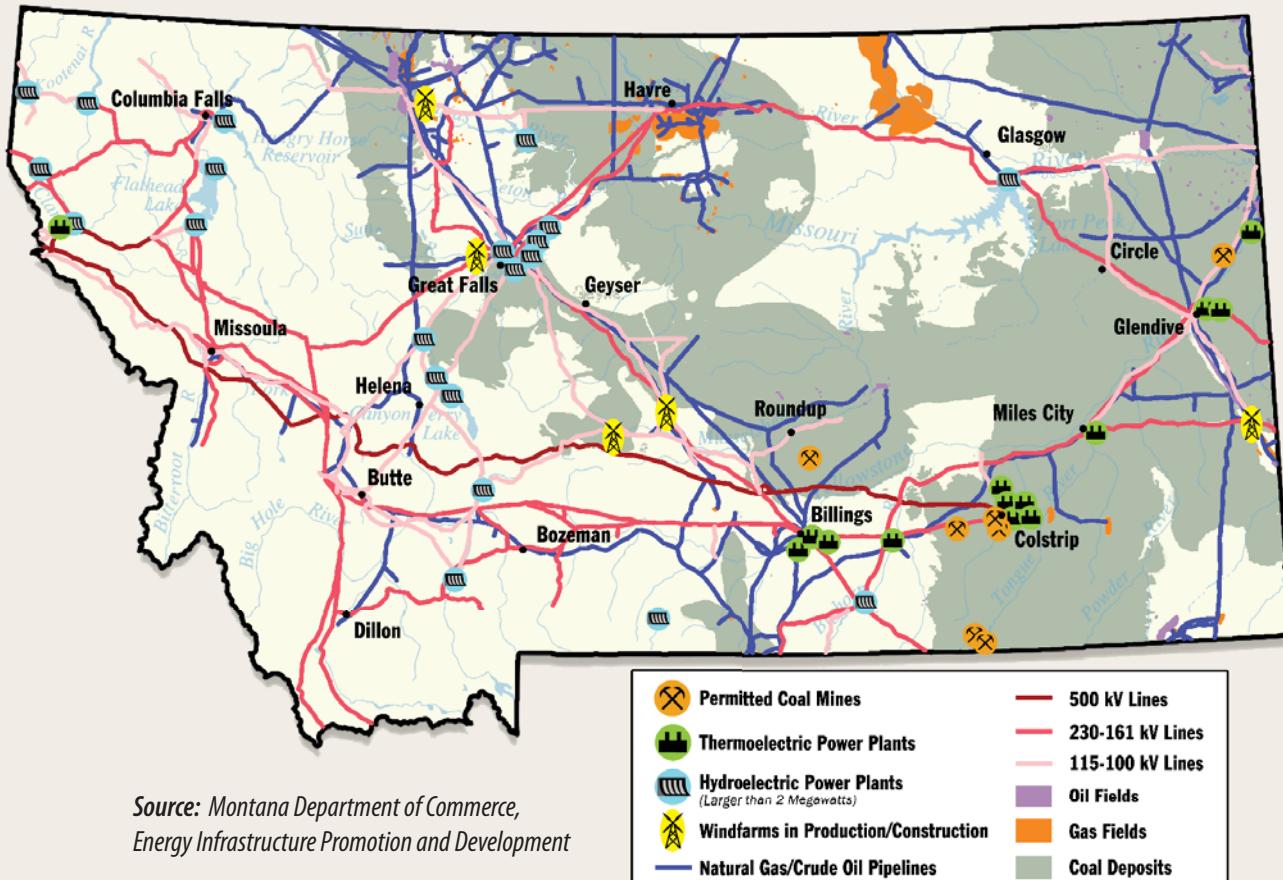
### The Future of Energy in Montana:

The future of the energy industry will be shaped by the need to reduce our reliance on nonrenewable and foreign sources of energy. Montana is particularly suited to responding to these challenges through the devel-

opment of clean energy sources, including clean coal, wind, and biofuels, which are natural value-added extensions of Montana's existing industries of agriculture, timber, and coal mining. Economic base theory stresses the importance of adding value to exported products; value-added production increases the wealth brought into the region through exports and increases the employment associated with energy production. For example, for every new job in the value-added sector of pipeline transportation of natural gas, there are 3.8 jobs created in other industries. In comparison, every new job in extraction of raw oil and gas only creates 0.9 jobs in other sectors.<sup>ix</sup>

Montana has received national attention for its efforts to encourage clean energy development through tax incentives and industry promotion. However, the future development of Montana's clean energy industry remains limited by technology and infrastructure.

## Energy Resources, Major Pipelines and Transmission Lines





In particular, technology appears to be the limiting factor in the production of biofuels and clean-coal production. Ethanol and biofuels from agricultural production have received increased criticism for their inefficient energy production and impact on world food prices. Further technological improvements are needed to address these concerns and explore the use of non-foodstuffs, such as wood products, for biofuel production.

New technologies in clean coal energy production have provided Montana with the opportunity to be at the cutting edge of development in the coal industry. Clean coal-to-liquid technology, which produces both diesel fuel and electric power while sequestering carbon dioxide and removing pollutants, provides great possibilities to add value to Montana's coal mining industry. Montana has more than one-fourth of the total US coal reserves with approximately 1.2 billion short tons of recoverable coal at producing mines, making Montana the ideal location to develop clean coal technologies.<sup>x</sup> Clean coal-to-liquid plants have the potential of providing a significant number of jobs; researchers from MSU-Billings estimated that one unrealized project outside of Roundup would have added over 4,200 jobs to the Montana economy.<sup>xi</sup> Announcements of new clean coal-to-liquid plants will be eagerly anticipated by Montana workers.

Although such future technological developments are exciting, Montanans are most concerned about where the rubber meets the road; where are the new jobs in the energy sector? The answer is in wind energy and the development of infrastructure. Montana has made significant progress in the development of wind energy, with four wind farms already in production and an additional plant under construction. Montana exports much of this wind electricity; however, limited transmission capability prevents further increases in the amount of energy that can be exported to the West Coast market. Experts in the energy industry indicate that further development of the energy industry in Montana requires greater transmission capacity to bring the power to the market.<sup>xii</sup>

A number of transmission line projects have been proposed in Montana, but these projects have not yet received full approval from the appropriate government agencies. The project that is furthest along in the process is the Montana-Alberta Tie Line (MATL), a 215-mile, 300 megawatt transmission line that would connect new wind farms to the existing network in Lethbridge, Alberta and Great Falls, Montana. Four wind energy companies have already purchased the 300 megawatt capacity on the MATL line and will likely resell this capacity to new wind farms as they are developed. This line will bring approximately \$1 billion of capital investment into the area and add approximately 55 short-term construction jobs and 12 utility jobs to the region.<sup>xiii</sup>

In addition to the MATL, there is a proposed 3,000 megawatt "Northern Lights" transmission line that will connect wind and clean-coal electrical plants in Montana to Las Vegas, and the 500 kilovolt "Mountain States Transmission Intertie" proposed by Northwestern Energy between southwest Montana and Idaho.<sup>xiv</sup> Smaller transmission lines are also planned that will connect distant plants to the main power grid. For example, the Western Area Power Administration is also planning to rebuild a 161 kilowatt transmission line from Havre to Great Falls. Finally, a small project proposes to build a transmission line from Sidney to the Middle of the Balken oil field in Eastern Montana. The number of jobs involved with these transmission line projects is not yet clear.

Once these transmission lines are built, more wind farms can be built to generate power for the transmission line. The construction and operation of these wind farms are expected to generate significant employment for construction and utility workers. For example, construction is expected to break ground this spring on the McCormick wind ranch in Toole County. This construction project is expected to result in over 200 temporary construction jobs and 12 permanent maintenance jobs.<sup>xv</sup> In 2006, utility construction workers earned about \$52,000 annually; electrical power generation jobs paid about \$76,000 annually. With a total of 2,348 employed



workers in Toole County, the McCormick wind farm will temporarily increase the local employment in the county by 9%.<sup>xvi</sup>

The potential development of wind farms in Montana has also brought related value-added manufacturing businesses to Montana. Wind-turbine maker Fuhrlander AG recently announced plans to build a \$25 million plant in Butte that will provide 150 manufacturing jobs. The location of the Fuhrlander plant increases the likelihood of Montana becoming a leader in wind energy because it will lower plant construction costs by allowing wind developments to purchase turbines and parts locally, rather than pay high shipping costs on orders of large turbine parts from Europe.<sup>xvii</sup>

The construction of the Fuhrlander plant, the transmission lines, and wind energy plants certainly comes at an opportune time for Montana's construction industry, coming just at the time when the national housing crises may slow building in Montana. However, there is some evidence that workers and businesses will require training programs to meet the specific demands of energy construction projects. Employment for utility-re-

lated construction has increased rapidly in the past few years, growing at a rate of 11% annually from 2003 to 2006, compared to 2.7% for all jobs. Earnings for utility system workers have also grown rapidly since 2003, at a rate of 17.2% compared 7.2% for all workers.<sup>xviii</sup> The wage differential between the utility system construction and other industries indicates that the labor supply has not kept up with this significant demand. The average earnings for construction and extraction jobs within the utility industry are 52% higher than similar jobs in all industries.<sup>xix</sup> This indicates that construction workers may need specialized training before accepting utility construction jobs.

Despite the pain at the pump, high energy costs are helping to drive growth in Montana's emerging energy industry. In addition to providing the incentive to increase production of Montana's traditional, nonrenewable energy resources, high fuel prices provide greater incentive to develop clean energy alternatives. Montana is rich in resources needed to produce clean fuels and is poised to take advantage of these opportunities, leading to significant job growth in utility construction and energy production for Montana's workers.

## References:

<sup>i</sup> Unadjusted Type II employment multipliers from IMPLAN software with 2004 data for Montana. "Energy Industry" is an aggregated industry of the following energy-related sectors: oilseed farming; oil and gas extraction; coal mining; drilling oil and gas wells; support activities for oil and gas operations and other mining; power generation and supply; natural gas distribution; water sewer and pipeline construction; petroleum refineries; oil and gas field machinery; electric power manufacturing; pipeline transportation; and federal electric utilities.

<sup>ii</sup> U.S. Department of Energy, Energy Information Administration. Montana State Energy Profile and US Energy Statistics. Coal-fired electricity production is 2007 figure. Estimated coal reserves from producing mines use 2006 data.

<sup>iii</sup> WISER, at <http://www.wisertrade.org>, from US Census Bureau, Foreign Trade Division.

<sup>iv</sup> See ii.

<sup>v</sup> See ii.

<sup>vi</sup> Montana Department of Commerce, Energy Infrastructure Promotion and Development. Website at <http://commerce.mt.gov/energy/index.asp>. Interview with representative Chantel McCormick, Energy Development Officer, on April 1, 2007.

<sup>vii</sup> Quarterly Census of Employment and Wages, Research and Analysis Bureau, Montana Department of Labor. Includes NAICS codes of 2211 (Power Generation and Supply), 211 (Oil and Gas Extraction), 2121 (Coal Mining), 213111 (Drilling of Oil and Gas Wells), 213112 (Support Activities for Oil and Gas Operations), 213113 (Support Activities for Coal Mining), 2211 (Power Generation and Supply), 2212 (Natural Gas Distribution), 23712 (Oil and Gas Pipeline Construction), 23713 (Power and Communication System Construction), 324 (Petroleum and Coal Products Manufacturing), and 486 (Pipeline Transportation).

<sup>viii</sup> Montana Department of Revenue, Biennial Report, 2004-2006. Available at <http://mt.gov/revenue/publicationsreports/biennialreports/2005-2006biennialreport.pdf>.

<sup>ix</sup> See i.

<sup>x</sup> See ii.

<sup>xi</sup> Rickard, Scott. "Economic and Fiscal Impacts of a Proposed Coal-to-Liquids Power Plant Facility in Musselshell County, MT." Center for Applied Economic Research, MSU-Billings. August 10, 2006.

<sup>xii</sup> Consortium for Electric Reliability Technology Solutions (CERTS), U.S. Department of Energy, Transmission Bottleneck Project Report. March 19, 2003.

<sup>xiii</sup> U.S. Department of Energy and Montana Department of Environmental Quality. DOE/EIS-0399. "Federal Draft Environmental Impact Statement and State of Montana Supplemental Draft Environmental Impact Statement for the Montana Alberta Tie Ltd. (MATL) 230-kV Transmission Line" February 2008. Available at <http://www.eh.doe.gov/nepa/docs/deis/eis0399>.

<sup>xiv</sup> See ii.

<sup>xv</sup> Puckett, Karl. "Largest Wind Farm Shaping Up," Great Falls Tribune, Feb 24, 2008.

<sup>xvi</sup> Local Area Unemployment Statistics, Research and Analysis Bureau, Montana Department of Labor. Dec. 2007.

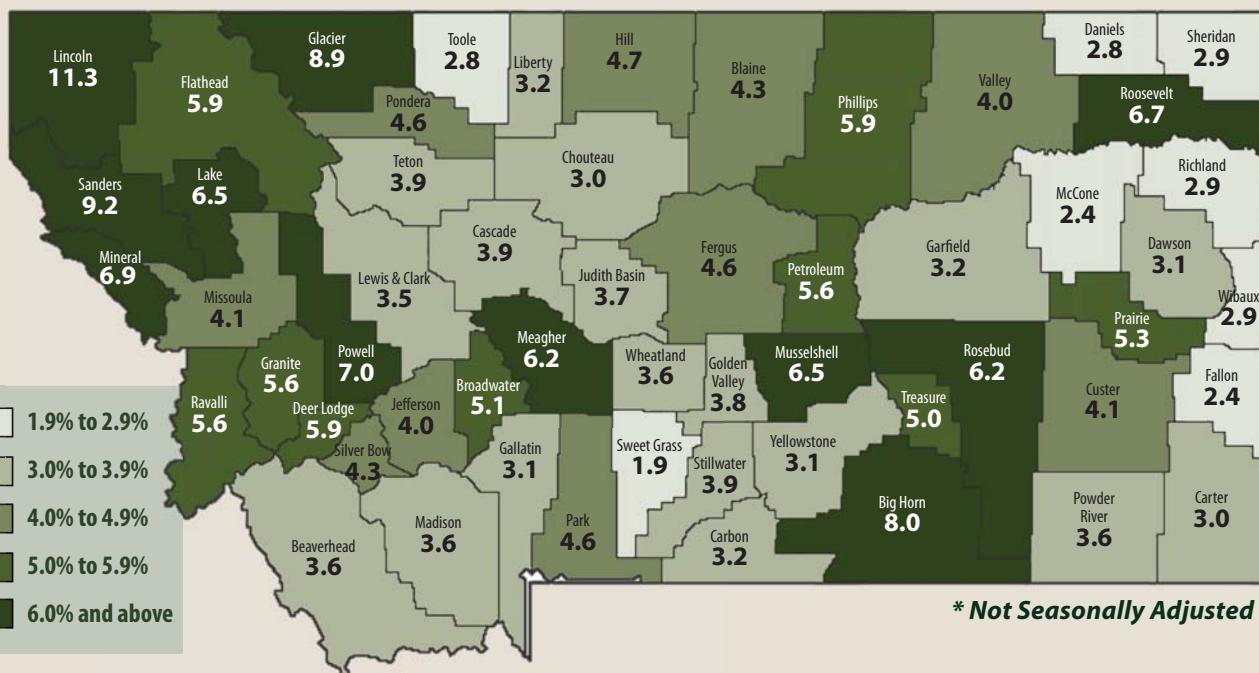
<sup>xvii</sup> Michels, Holly. "Butte Lands Turbine Plant," The Montana Standard. 3/5/2008.

<sup>xviii</sup> Growth in NAICS codes 23712 and 23713 compared to total employment, 2003 to 2006. Quarterly Census of Employment and Wages, Bureau of Labor Statistics, U.S. Department of Labor.

<sup>xix</sup> Construction and extraction occupations within the utility industry have a mean annual wage of \$54,846 compared to a wage of \$35,961 for similar occupations in all industries. Occupational Employment Statistics.

# County Unemployment Rates\* - March 2008

**Montana Average Rate: 4.4%**



\* Not Seasonally Adjusted

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2,300 copies of this public document were published at an estimated cost of \$0.87 cents per copy, for a total cost of \$2,000.00, which includes \$1,537.00 for printing and \$463.00 for distribution.



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